



## The Facts About Fasting Diets

So-called “fasting” diets have recently received a lot of buzz in the media and attention from researchers as a possible means to promote weight loss and improve health. Data from animal studies are promising on several fronts, but data on humans are limited and short-term. Let’s take a closer look at the current science on this increasingly-popular diet trend.

**Intermittent Fasting:** While typical diet plans involve cutting back on caloric intake across-the-board, intermittent fasting reduces caloric intake in a different way: through time-restricted eating (eating only at certain times of the day, such as during an eight-hour window, and fasting the rest of the day) or periodic fasting (abstaining from food entirely or drastically reducing caloric intake on two or more days every week).

“Intermittent fasting is primarily used for weight loss and the reduction of chronic disease risk that accompanies weight loss,” says Sai Das, PhD, associate professor at the Friedman School of Nutrition Science and Policy and a scientist in the Energy Metabolism laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging. “In terms of weight loss and improvement in body composition, intermittent fasting can work, but there is not sufficient evidence to say it is superior to overall calorie restriction. In fact, the two methods appear to be pretty comparable.”

**Current Science:** The theory behind intermittent fasting is that animals, including humans, evolved physiological adaptations that enable them to survive periods of food scarcity or absence, so our metabolisms might respond well to eating patterns that mimic long periods of low caloric intake, but solid data supporting this idea are lacking.

In some experimental animals, fasting regimens, whether intermittent or periodic, have demonstrated beneficial health effects including impact on diabetes, cardiovascular disease, and cancers. But these diets have only been shown to delay onset and slow the progression of chronic diseases in rats and mice. Trials in nonhuman primates (monkeys) have been disappointing, and there have yet to be sufficient studies in humans to establish any benefits.

A 2017 review of the science published in *Ageing Research Reviews* concluded that all forms of calorie restriction (whether continuous or intermittent) in normal and overweight human subjects “have demonstrated efficacy for weight loss and improvements in multiple health indicators including insulin resistance and reductions in risk factors for cardiovascular disease.” A randomized controlled trial published in 2018 in the *American Journal of Clinical Nutrition* backs up this assertion. The small but well-conducted study found little difference between the effects of an intermittent calorie-restricted diet and a continuous calorie-restricted diet. Participants with regular caloric intake five days a week and a 75 percent reduction in caloric intake two days a week had similar changes in weight, metabolic lab values, body composition, and fat cell gene expression as those who reduced their daily calorie intake by 20 percent for all seven days a week.

A limited number of short-term studies in humans suggest that intermittent fasting regimens, like more typical continuous calorie restriction diets, may be of some help in protecting against metabolic syndrome and associated disorders including diabetes and cardiovascular disease when used for weight loss. “At this time, both continuous calorie restriction and intermittent calorie restriction have been associated with short-term health benefits, and research on both approaches is yielding promising results,” says Das. What is not known is the long-term effectiveness of intermittent fasting.

Intermittent fasting appears to be just as effective as across-the-board calorie cutting for achieving weight loss and associated health benefits—at least in the short term.

**What to Do:** Many factors play into whether intermittent fasting is the right choice for a given individual looking to lose weight. Personal preferences, genetic makeup, and environmental factors all need to be taken into account. Those who get weak, dizzy, shaky, or cranky when skipping meals should avoid fasting, and it may not be appropriate for those with diabetes, who should eat to maintain steady blood sugar levels. Strict timing of food intake can also interfere with social interactions.

The true test of a successful weight loss diet is its ability to maintain weight loss long term, and studies in humans of these different fasting approaches to date have all been short term. “For long-term success, the evidence supports focusing more on what you eat—the quality of diet,” says Dariush Mozaffarian, MD, DrPH, dean of Tufts’ Friedman School of Nutrition Science and Policy and editor-in-chief of Tufts Health & Nutrition Letter. “Avoiding refined grains, starches, added sugars, and other hyper processed foods, and eating plenty of minimally processed foods like nuts, seeds, beans, fruits, non-starchy vegetables, fish, yogurt, and healthy fats like plant oils seems to activate many natural weight controlling pathways in the body, including through a healthier gut microbiome.”

“There is clear evidence that timing eating to align with your own circadian rhythms—your biological clock—is best for health,” says Das. “People should time their eating in a way that works for them.”

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[https://www.nutritionletter.tufts.edu/issues/15\\_8/current-articles/The-Facts-About-Fasting-Diets\\_2618-1.html?ET=tuftshealthletter:e42401:2614763a:&st=email&s=p\\_WeeklyUpdate121519](https://www.nutritionletter.tufts.edu/issues/15_8/current-articles/The-Facts-About-Fasting-Diets_2618-1.html?ET=tuftshealthletter:e42401:2614763a:&st=email&s=p_WeeklyUpdate121519)

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